

IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

Claim 1 (canceled).

2. (currently amended) A packet communication apparatus for transmitting a packet from a first network to a second network, wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, said packet communication apparatus comprising:

a packet generating unit which generates a second header used to compose a closed network in the second network based on the IP address and information in the first header; and

a transmitter which transmits a packet having added thereto said second header.

3. (previously presented) A packet communication apparatus according to claim 2, further comprising:

a processing unit which replaces the first header with the second header.

4. (previously presented) A packet communication apparatus according to claim 2, further comprising:

a route decision processing unit which decides a route to the second network according to the IP address and information in the first header.

5. (previously presented) A packet communication apparatus according to claim 2, wherein the packet is an IP packet.

6. (currently amended) A packet communication method of transmitting a packet from a first network to a second network, wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, the packet communication method comprising the steps of:

receiving the packet; and

generating a second header used to compose a closed network in the second network based on the IP address and an information in the first header.

7. (previously presented) A packet communication method according to claim 6, further comprising the step of:

replacing the first header with the second header.

8. (previously presented) A packet communication method according to claim 6, further comprising the step of:

deciding a route to the second network according to the IP address and information in the first header.

9. (previously presented) A packet communication apparatus according to claim 4, wherein the packet is an IP packet.

10. (previously presented) A packet communication system comprising:

a first network;

a second network; and

a router which transmits a packet from the first network to the second network,

wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, and

wherein the router generates a second header used to compose a closed network in the second network based on the IP address and information in the first header.

11. (previously presented) A packet communication system according to claim 10, wherein the router replaces the first header with the second header.

12. (previously presented) A packet communication system according to claim 10, wherein the router decides a route to the second network according to the IP address and information in the first header.

13. (new) A packet communication apparatus for transmitting a packet from a first network to a second network, wherein the packet includes an Internet

Protocol (IP) address and a first header used to compose a closed network in the first network, said packet communication apparatus comprising:

an index generating unit which generates a second header used to compose a closed network in the second network based on the index; and

a transmitter which transmits a packet having added thereto said second header.

14. (new) A packet communication apparatus according to claim 13, further comprising:

a processing unit which replaces the index with the second header.

15. (new) A packet communication apparatus according to claim 13, further comprising:

a route decision processing unit which decides a route to the second network according to the IP address and information in the first header.

16. (new) A packet communication apparatus according to claim 13, wherein the packet is an IP packet.

17. (new) A packet communication method of transmitting a packet from a first network to a second network, wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, the packet communication method comprising the steps of:

receiving the packet;
generating an index based on the IP address and information in the first header; and
generating a second header used to compose a closed network in the second network based on the index.

18. (new) A packet communication method according to claim 17, further comprising the step of:

replacing the index with the second header.

19. (new) A packet communication method according to claim 17, further comprising the step of:

deciding a route to the second network according to the IP address and information in the first header.

20. (new) A packet communication apparatus according to claim 16, wherein the packet is an IP packet.

21. (new) A packet communication system comprising:

a first network;

a second network; and

a router which transmits a packet from the first network to the second network,

wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, and

wherein the router generates an index based on the IP address and information in the first header, and generates a second header used to compose a closed network in the second network based on the index.

22. (new) A packet communication system according to claim 21, wherein the router replaces the index with the second header.

23. (new) A packet communication system according to claim 21, wherein the router decides a route to the second network according to the IP address and information in the first header.